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## 15 Claims

1. A process for vulcanizing rubber or latex by adding a mixture M comprising a component a) made from

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a1) from 20 to 96% by weight of sulfur,

a2) from 4 to 80% by weight of a complexer,

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and, where appropriate, comprising other additives b),

to the rubber or latex and then carrying out the vulcanization, which comprises using a component a) whose average primary particle size is in the range from 0.05 to 20  $\mu\text{m}$ .

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2. A process as claimed in claim 1, wherein the complexer a2) comprises a polymeric complexer compound.

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3. A process as claimed in claim 1 or 2, wherein the polymeric complexer a2) is a ligninsulfonate, a  $\beta$ -naphthalenesulfonic acid-formaldehyde condensate, or a mixture of ligninsulfonate and  $\beta$ -naphthalenesulfonic acid-formaldehyde condensate.

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4. A process as claimed in any of claims 1 to 3, wherein the polymeric complexer a2) is an alkali metal ligninsulfonate and/or an alkaline earth metal ligninsulfonate.

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5. A process as claimed in any of claims 1 to 4, wherein the mixture M is free-flowing with an average particle size of from 50  $\mu\text{m}$  to 4 mm.

6. A process as claimed in any of claims 1 to 5, wherein the mixture M is a liquid dispersion.
7. The use of a mixture M — as defined in any of claims 1 to 6 — as agent for vulcanizing rubber or latex.
8. A sulfur-containing composition made from 20 to 96% by weight of sulfur and from 4 to 80% by weight of a complexer, wherein the average primary particle size is in the range from 0.05 to 20  $\mu\text{m}$ .
9. A sulfur-containing composition as claimed in claim 8, where the complexer comprises a polymeric complexer compound.
10. A sulfur-containing composition as claimed in claim 8 or 9, where the polymeric complexer is a ligninsulfonate, a  $\beta$ -naphthalensulfonic acid-formaldehyde condensate, or a mixture of ligninsulfonate and  $\beta$ -naphthalensulfonic acid-formaldehyde condensate.

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